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Q&A

ORGAN TRANSPLANTATION

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INTRODUCTION

Medical advances have made it possible to transplant numerous tissues and organs from one human being to another to improve and save lives. The first blood transfusion was performed in 1918, the first kidney transplant in 1954, and the first heart transplant in 1967. Now, current medical technology also enables the transplantation of skin, cornea, heart-lung, lung, pancreas, liver, bone, and bone marrow.

In 1984, there were approximately 6,900 kidney, 24,000 cornea, 300 liver, 350 heart, and 30 heart-lung transplants performed in the United States. Despite advances in transplantation surgery, the need for organs for transplants surpasses the number donated each year. Today, more than 8,000 Americans wait for an organ transplant.

Following are answers to some of the most frequently asked questions about organ transplantation.

U.S. Department of Health and Human Services
Public Health Service
Health Resources and Services Administration
Office of Organ Transplantation
5600 Fishers Lane, Room 17-60
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How many organ transplants have been performed and what is the average cost for each procedure? What is the survival rate for each? How many people are waiting for organ transplants?

	Transplants Performed in U.S.						
	1981	1982	1983	1984	*Avg.*[1] *Cost*	*1-Year Survival Rate*	*People Waiting (approx.)*
Heart	62	103	172	346	$ 57,000 110,000	80%	100[5]
Kidney	4,885	5,358	6,112	6,968	$ 25,000 50,000	91%[3] 96%[4]	8,000[6]
Liver	26	62	164	308	$135,000 238,000	65%	300
Pancreas Islet Cell		45	61	87	$ 30,000 40,000	45-80%	50
Corneas		18,500	21,250	24,000	$ 4,000[2] 7,000	(90% success rate)	4,000

1. Many variables account for range of cost in transplantation procedures, i.e., lack of uniformity in reporting component costs, complications, medication regimen, method of reporting or non-reporting payment of surgeons (salary, fee, no charge), graft rejection, readmissions, infections, geography.
2. Outpatient procedure average cost is $4,000-$5,500. Inpatient procedure average cost is $5,000-$7,000; 2-3 day inpatient stay maximum.
3. Transplant with kidney from a deceased donor.
4. Transplant with kidney from a living related donor.
5. According to the National Heart Transplantation Study conducted by the Battelle Human Affairs Research Centers, 14,000 people could benefit from heart transplants.
6. May include some duplicate counting due to some patients being on more than one kidney transplant waiting list or including some patients who were not removed from waiting list after transplant.

Sources: American Council on Transplantation
Battelle Human Affairs Research Centers
Health Care Financing Administration

What are organ procurement organizations?

There are approximately 50 independent organ procurement agencies and 60 hospital-based organ procurement programs in the United States.

These organizations coordinate activities relating to recovery of donated organs including preserving donated organs, making arrangements to transport organs, and arranging for tissue typing of donated organs. They also provide information and education to encourage donations and increase availability of organs for transplantation.

All organ procurement agencies are:

- Reimbursed by Medicare End Stage Renal Disease (ESRD) program for kidney procurement
- Nonprofit agencies

What networks currently are used to match donor organs with recipients?

Waiting lists of transplant patients are currently maintained nationally by two recognized networks: the United Network for Organ Sharing (UNOS) located in Richmond, Virginia, and the North American Transplant Coordinators Organization (NATCO) 21 ALERT system located in Pittsburgh, Pennsylvania. Each of the nationwide networks maintains a 24-hour telephone service to aid in matching donor organs with patients on the list and to coordinate efforts with transplant centers.

Generally, persons waiting for transplants are listed at the transplant centers where they are patients; in the event that a local donor is identified, or at regional networks that serve several transplant centers and also at one of the nationwide computer networks.

How are donor organs matched with recipients?

Waiting lists of potential recipients of organ transplants contain information about their blood and tissue type, size, and weight. The characteristics of a donor are entered into a computer and compared with information about patients on waiting lists to identify the most closely matched recipient.

Once a potential organ donor is identified by hospital staff and once a person is declared brain dead, an organ procurement program is contacted. Often the program is consulted about donor acceptability and is asked to approach families to seek consent for organ donation. Once consent is given, the characteristics of the donor are entered into a computer or compared with information on waiting lists to identify the most closely matched recipient.

When a match is found, the organ procurement program will arrange for transplant teams to surgically remove the donor's organ(s), will make arrangements to preserve the organ(s), and will have the organ(s) transported to a transplant center. The potential recipient is also alerted to the availability of an organ and is asked to travel to the transplant center. The recipient's organ is removed and the donor organ is implanted.

The organs generally go to those in most critical need and who most closely match the characteristics of the organ donor.

Timing is a critical element in the organ procurement process. Hearts can only be preserved for 4-6 hours, livers for 8-12 hours, kidneys for 72 hours. Lungs cannot be preserved at all outside the body.

All expenses for the procurement, transportation, and transplantation of donated organs are paid by recipients or public or private insurers.

How many transplant centers are there in the United States?

There are 36 liver, 173 kidney, 56 heart, 16 pancreas and 7 heart-lung transplant centers in the United States.

What is the National Organ Transplant Act and what steps have been taken to implement it?

The National Organ Transplant Act (Public Law 98-507) was signed by the President in October, 1984, to provide for a comprehensive review of the medical, legal, ethical, economic, and social issues presented by human organ procurement and transplantation and to strengthen the ability of the nation's health care system to provide organ transplants.

An Office of Organ Transplantation has been established in the Health Resources and Services Administration of the Public Health Service and members have been appointed to the National Task Force on Organ Transplantation as authorized by the law.

The Task Force has conducted a study of immunosuppressive therapies that prevent organ rejection, as well as assessed the safety, cost, long-term effectiveness of these therapies and their accessibility for a report to Congress and the Secretary. The Task Force is also conducting a comprehensive review of medical, ethical, economic, legal, and social issues in organ procurement and transplantation.

The Office of Organ Transplantation serves as a source of information on the resources and activities of states, private sector and voluntary organizations, and federal programs involved in various aspects of organ transplantation, such as public education on organ donation, medical research, and health care financing. The Office is supporting a national computerized network for organ matching that would build upon existing systems.

What are the critical issues to be pursued by the Task Force on Organ Transplantation?

The Task Force completed an assessment of immunosuppressive medications and other modalities used to prevent organ rejection in transplant patients, including analysis of:

- Safety, effectiveness, and costs;
- Patient problems in obtaining medications;
- Various approaches to assure individuals needing such medications can obtain them; and
- Private insurance for long-term immunosuppressive drug therapy.

The Task Force is also required to report to the HHS Secretary and Congress on vital aspects of the organ donation/procurement transplantation process including:

- Factors that diminish the number of organs available for transplantation;
- Problems in coordinating procurement of viable organs including skin and bone;
- Recommendations for education of the public and health professionals in organ donation and procurement;
- Recommendations for assuring equitable access by patients to organ transplantation and for assuring equitable allocation of donated organs among transplant centers and among patients;
- Identification of barriers to donation of organs to patients;
- Recommendations for the conduct and coordination of continuing research concerning all aspects of transplantation of organs;
- Analysis of factors in reimbursement for transplant procedures by private insurers and the public sector;
- Analysis of the manner in which organ transplantation technology is diffused among and adopted by qualified medical centers;
- An assessment of the feasibility and likely effectiveness of a national registry of human organ donors.

Who is on the Task Force on Organ Transplantation?

The National Organ Transplant Act (Public Law 98-507) requires a 25-member Task Force on Organ Transplantation consisting of 9 physicians or scientists eminent in specialties related to human organ transplantation; 3 nonphysicians representing the field of human organ procurement; 4 nonphysicians with expertise in law, theology, ethics, health care financing, and social and behavioral sciences; 3 members of the general public; 2 health insurance representatives; and 4 ex officio members, including the Director of the National Institutes of Health, the Commissioner of the Food and Drug Administration, the Administrator of the Health Care Financing Administration, and the Surgeon General.

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Are organ transplants covered by Medicare and Medicaid?

Under Medicaid, states are permitted to determine coverage policy for particular organ transplants, and if they provide coverage, the Federal Government will match expenditures. A recent survey showed that most states offer Medicaid coverage for some transplant costs, either as part of a formal policy or on a case-by case (exception) basis. Forty three states have reimbursed for costs associated with bone marrow transplants, while thirty three states offered coverage for liver transplants. Twenty-five states covered costs associated with heart transplants and thirteen states covered heart lung transplant costs. Three states have provided reimbursement for pancreas transplants.

Medicare covers kidney and corneal transplants for those who are eligible. Medicare also covers liver transplants for eligible children with congenital liver disease (biliary artresia) and bone marrow transplants for eligible persons with aplastic anemia or leukemia. For the adult population, liver, heart, pancreas, and heart-lung transplantation is regarded as experimental and, therefore, not covered by Medicare. Medicare has paid for 13 heart transplants under a demonstration study.

In addition, many private insurers cover selected transplant procedures and services. Some experimental transplantation is also covered by medical centers conducting specific research protocols.

What are the most common immunosuppressive drugs used to prevent rejection of transplanted organs? Does Medicare pay for these drugs?

The drugs most frequently used for immunosuppressive therapy are Cyclosporine, Imuran and Prednisone.

Medicare covers drugs administered in an inpatient setting, or as outpatient care incident to physician services. Self-administered outpatient drugs are not covered by the program.

What is the status of organ donation? How many Americans carry organ donor cards?

A serious shortage of donated organs and tissues prevents many transplants from being performed.

Potential organ donors are persons who have suffered an irreversible catastrophic brain injury which results in "brain death," i.e., all brain activity has permanently ceased, but heart and lungs can continue to function with the use of artificial life support. Potential tissue donors can be persons who have died from any cause except cancer, infection, or from a rare disease. Over 23,000 people were involved in accidents which left them "brain dead" in 1984, but in only an estimated 5,000 of those cases were organs donated. In contrast, in 1984 there were 17,000 tissue donors out of 720,000 deaths.

A 1985 Gallup survey indicates that while 93% of Americans are aware of organ transplants, only 17 percent of them carry organ donor cards. Many states provide donor cards on the back of driver's licenses. Wallet sized donor cards are also available from a number of non-profit organizations interested in organ donation.

But even if a person has a signed donor card, the decision to donate rests with the family. This highlights the importance of family discussion and understanding of each member's views about organ donation.

Is it permissable to sell human organs?

The National Organ Transplant Act (Public Law 98-507) prohibits the sale of human organs.

Violators of this provision of the law will be fined a maximum of $50,000 and/or imprisoned for a maximum of five years.

Who can donate an organ?

Anyone, regardless of age or medical history, can sign a donor card or express wishes to family members to donate in the event of death. Any or all organs and tissues can be specified for donation. The medical determination of whether organs or tissues can help others is made at the time of a donor's death.

Will the quality of hospital treatment change if a person is a declared donor?

Absolutely not. A transplant team won't be involved until all possible efforts to save a patient's life have failed. The criteria used to determine brain death are based on strict medical and legal standards. The determination of brain death must be made by physicians who are not involved in the organ donation process.

Who pays for the organ donation?

There is no cost to the family nor is there any payment for donation. All costs are borne by the recipient of the organ transplant or by the recipient's insurance coverage. Hospital expenses, incurred prior to the donation of organs, and funeral expenses remain the responsibility of the donor's family.

Is the body disfigured?

No. The removal of organs and tissues is a sterile, surgical procedure. The body remains intact for burial arrangement.

What can be done to speed up the process for those in critical need of an organ transplant? What about special public appeals?

Families and attending physicians need to maintain close contact with the transplant team to keep them fully up to date on the patient's condition. Families can also work with community groups to increase public awareness of organ transplantation and the need for organ donation.

While family appeals through the media have had a positive effect on increasing organ donation overall, they do not always result in an organ becoming available for the individual for whom the appeal has been made. This is because the decision as to which patient on a transplant waiting list will receive an organ is a clinical decision made by attending health professionals.

How can I help?

Consider signing an organ donor card. You may use the card provided on the flap of the back cover. Discuss organ donation with your family so they can know your wishes and consider signing a donor card, too.

Nearly every community has one or more voluntary or non-profit organizations involved in educating the public about organ donation or in providing counseling or support to families who have donated or have a member in need of an organ transplant. To volunteer your help, check your local telephone directory for the location of organ procurement agencies, eye banks, blood centers, or a local chapter of the National Kidney Foundation.

In addition, the American Council on Transplantation (ACT) is an independent, private federation of organizations, health professionals, and others interested in organ donation. ACT has begun a national education program to increase organ donation. Call ACT's toll-free number (1-800-ACT-GIVE) for information, donor cards, and referral to local agencies.

- Discuss organ donation with family and friends.
- Decide whether you wish to be an organ donor. The Uniform Anatomical Gift Act of 1969 gives you the legal right to sign a donor card specifying your wish to donate organs or tissues upon your death.
- If you decide to be a donor, complete and sign the Uniform Donor Card on this page in the presence of two witnesses, preferably including next of kin. Persons under 18 years of age must have parent's or guardian's consent.
- Tell others about your decision, especially immediate family and physician.
- Carry your donor card at all times.

Signed by the donor and the following two witnesses in the presence of each other

This is a legal document under the Uniform Anatomical Gift Act or similar law

DEPARTMENT OF
HEALTH & HUMAN SERVICES

Public Health Service
Health Resources and Services Administration
Office of Organ Transplantation
Rockville MD 20857

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HHS 396

UNIFORM DONOR CARD

Of _____
Print or type name of donor

In the hope that I may help others, I hereby make this anatomical gift, if medically acceptable, to take effect upon my death. The words and marks below indicate my desires.

I give: (a) _____ any needed organs, tissues
(b) _____ only the following organs, tissues

_____
Specify the organ(s), tissue(s)

for the purposes of transplantation, therapy, medical research or education

(c) _____ my body for anatomical study if needed

Limitations or
special wishes, if any: _____

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HEALTH & HUMAN SERVICES
Public Health Service
Health Resources and Services Administration

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